

[illegible]

**FIG. 1A**

2184 TTACCTTTGTGCTGGAAGAAACGATTGCATCATTGATAAAATTCTGAAGGAAAACTGCCAGCATGCCGCTATCGGAA  
728▶ Y L C A G R N D C I I D K I R R K N C P A C R Y R K  
2262 ATGCTTTCAGGCTGGAATGAACCTTGAAGCTCGAAAAACAAAGAAAAAATCAAAGGGATTTCAGCAAGCCACTGCAGG  
754▶ C L Q A G M N L E A R K T K K K I K G I Q Q A T A G  
2341(GR526)  
2340 AGTCTCACAAGACACTTCGGAAAAATCCTAACAAAACAATAGTTCTCTGCAGCATTACCACAGCTCACCCCTACCTTGGT  
780▶ V S Q D T S E N P N K T I V P A A L P Q L T P T L V  
2418 GTCACCTGCTGGAGGTGATTGAACCCGAGGTGTTGTATGCAGGATATGATAGCTCTGTTCCAGATTTCAGCATGGAGAAT  
806▶ S L L E V I E P E V L Y A G Y D S S V P D S A W R I  
2496 TATGACCACACTCAACATGTTAGGTGGGCGTCAAGTGATTGCAGCAGTGAAATGGGCAAAGGCGATACCTAGGCTTGAG  
832▶ M T T L N M L G G R Q V I A A V K W A K A I L G L R  
2574 AAACCTTACACCTCGATGACCAAATGACCCTGCTACAGTACTCATGGATGTTTCTCATGGCATTTCGCTTGGGTTGGAG  
858▶ N L H L D D Q M T L L Q Y S W M F L M A F A L G W R  
2652 ATCATACAGACAATCAAGCGGAAACCTGCTCTGCTTTGCTCCTGATCTGATTATTAATGAGCAGAGAATGTCTCTACC  
884▶ S Y R Q S S G N L L C F A P D L I I N E Q R M S L P  
2730 CTGCATGTATGACCAATGTAAACACATGCTGTTTGTCTCCTCTGAATTACAAAGATTGCAGGTATCCTATGAAGAGTA  
910▶ C M Y D Q C K H M L F V S S E L Q R L Q V S Y E E Y  
2808 TCTCTGTATGAAAACCTTACTGCTTCTCTCCTCAGTTCTTAAGGAAGGTCTGAAGAGCCAAGAGTTATTTGATGAGAT  
936▶ L C M K T L L L L S S V P K E G L K S Q E L F D E I  
2886 TCGAATGACTTATATCAAAGAGCTAGGAAAAGCCATCGTCAAAGGGAAGGGAAGTCCAGTCAGAACTGGCAACGGTT  
962▶ R M T Y I K E L G K A I V K R E G N S S Q N W Q R F  
2964 TTACCAACTGACAAAGCTTCTGGACTCCATGCATGAGGTGGTTGAGAATCTCCTTACCTACTGCTTCCAGACATTTTT  
988▶ Y Q L T K L L D S M H E V V E N L L T Y C F Q T F L  
3042 GGATAAGACCATGAGTATTGAATTCCCAGAGATGTTAGCTGAAATCATCACTAATCAGATACCAAATATTCAAATGG  
1014▶ D K T M S I E F P E M L A E I I T N Q I P K Y S N G  
3120 AAATATCAAAAAGCTTCTGTTTCATCAAAAATGA  
1040▶ N I K K L L F H Q K •

FIG. 1B

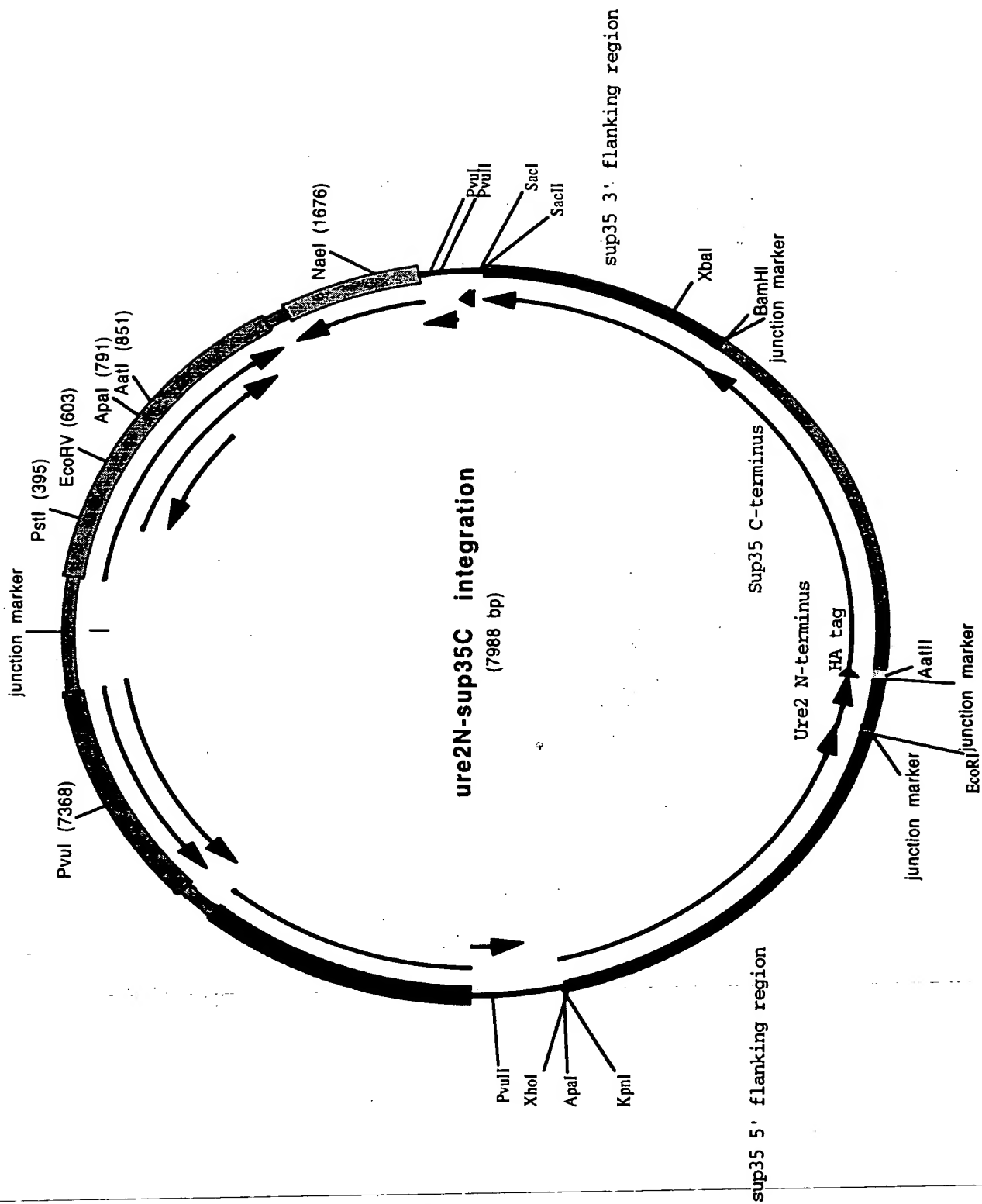


FIG. 2

1 TCGCGCGTTT CGGTGATGAC GGTGAAAACC TCTGACACAT GCAGCTCCCG GAGACGGTCA CAGCTTGCT GTAGCGGAT GCCGGGAGCA GACAAGCCCG  
04  
101 TCAGGGCGCG TCAGCGGGTG TTGGCGGGTG CTTAACTATG TCGGGGCTGG CGGCATCAGA GCAGATTGTA CTGAGAGTGC ACCATACCAC AGCTTTTCAA  
201 TTCAATTCAT CATTTTTT TTATCTTTT TTATCTTTT GGTCTCTTG AAATTTTTT GATTCGGTAA TCTCCGACGA GAAGGAAGAA CGAAGGAAGG  
301 AGCACAGACT TAGATTGGTA TATATAGCGA TATGTAGTGT TGAAGAAACA TGAATTTGCC CAGTATCTT AACCCAACTG CACAGAACA AAACCTGCAG  
401 GAAACGAAGA TAAATCATGT CGAAAGCTAC ATATAAGGAA CGTGCTGCTA CTCATCTCTAG TCCATCTGCT GCCAAGCTAT TTAATATCAT GCACGAAAAG  
501 CAAACAACT TGTGTGCTTC ATTTGATGTT CGTACCACCA AGGAATTACT GGAGTTAGTT GAACATTAG GTCCCAAAT TTGTTTACTA AAAACACATG  
29 Q T N L C A S L D V R T T K E L L E L V E A L G P K I C L L K T H  
142 C V F K H A E N S T R V V L S N S S N T S A N P G L I Q K S F V C T  
EcoRV (603)  
601 TGGATATCTT GACTGATTTT TCCATGGAGG GCACAGTTAA GCCGCTAAG GCATTATCCG CCAAGTACAA TTTTCTACTC TTCGAAGACA GAAAATTTCG  
62 V D I L T D F S M E G T V K P L K A L S A K Y N F L L F E D R K F A  
109 S I K V S K E M S P V T L G S F A N D A L Y L K K S K S S L F N A  
701 TGACATTTGT AATACAGTCA AATTCAGTA CTCTGCGGGT GTATACAGAA TAGCAGAATG GGCAGACATT ACGAATGCAC ACGGTGTGTT GGGCCAGGT  
95 D I G N T V K L Q Y S A G V Y R I A E W A D I T N A H G V V G P G  
76 S M P L V T L N C Y E A P T Y L I A S H A S M V F A C P T T P G P  
AatI (851)  
801 ATTGTTAGCG GTTGAAGCA GGCGGCAGAA GAAGTAACAA AGGAACCTAG AGGCCCTTTG ATCTTAGCAG AATTGTCATG CAAGGGCTCC CTATCTACTG  
129 I V S G L K Q A A E E V T K E P R G L L M L A E L S C K G S L S T  
42 I T L P K F C A A S S T V F S G L P R K I N A S N D H L P E R D V P  
901 GAGATATAC TAAGGTTACT GTTACATTTT CGAAGAGCGA CAAAGATTTT GTTATCGCT TTATTCGCTA AAGACATG GGTGCAAGAG ATGACGTTA  
162 G E Y T K G T V D I A K S D K D F V I G F I A Q R D M G G R D E G Y  
94 S Y V L P V T S M  
1001 CGATTGGTIG ATTATGACAC CCGGTGTGGG TTATAGTAC AAGGAGACG CATTCGGTCA ACAGTATAGA ACCGTGATG ATCTGGTCTC TACAGATCT  
195 D W L I M T P G V G L D D K G D A L G Q Q Y R T V D D V V S T G S  
1101 GACATTTATTA TTGTTGGAAG AGGACTATTT GCAAAGCGAA GCGATGCTAA GGTAGAGGT GAACGTTACA GAAAACAGG CTGGGAAGCA TATTTCAGAA  
229 D I I I V G R G L F A K G R D A K V E G E R Y R K A G W E A Y L R

FIG. 3A



3007 ACCCTTTTCTAAATTGTGCAATAAATAATATGTACCTCTTCAATTGCTGTATGAACAATGCAATAACACATGAAAAACGGCTGCTATGATAGATTTTAATTCTACAATA  
3119 GCAATTTGAGCTACAAACTTGGTAACACTTTTGATAGGGTTCTTTGGCGAATGTAGTACAAAACCTGGTGAAATGCTTCTTCTCAACACCTTTTGATTC-TTAGTTTAACTT  
3231 GCTCACACACATAGCCATATCAACTTCATTTTCAGTTTTCGTGTGTAATAATATTTTGAATTTCCACAGCGGTTTGTAGGCATCAGTAGGGTGGATTGACCCCTTTTGTGATATG  
3343 ACCGGAATCAATTTTACCTTCAACGATGGTACCTAGATCCTTCATCTTAGCGGCAATAGGCAACATGAATGGAGCAATGATGTGACGGTCGACGTGTTCAATGTATGCCAGA  
3455 TATTCTAACAGAGTTGGGCCGGGTACCATGGGCAATCTTTTGGATCTACGTGATCTTTCAAATTTGCACCACCTGTAGCCGGATAC-TGGCATAAATACAAACGTCTGTCTTTAA  
3567 TGTGTAAACCAATTGCTCTCAAGAAATTGCTGACATTTACTCACACATTTGGTTCGTAACGTTTCCCTTAGACCAGTTAAACGGTTGGGTCACTCCATCTTATTAGCAGCAACCAT  
3679 CTTATTAAACACCTTTGGGCTTTGGCCAATAGGGCGGTTCACGAGTTTGACCACTCTCTCAAAAACCGGTTTCGTACTCACCTTTCTGGCGGAATGACCAAAACACCAACA  
3791 TCAGCTTGAGAAGCACCACCGATCATCTCGGAAACGTACATTTTATGACCAGGAGCATCCAATATGGTATTAACGCCCTTTTTCAGTTTCAAAAGTAGGCCCTTACCACATTCCT  
3903 TAGTCTTACCATCATTTCTTCTTTCTTTGTGTGGTATCCATGACCCATGACAAGTACCAACCTTGTCTGCTGTCATCCCTTGGCTTCTCTTTCATATTTCTCAATAGTTCCTCT  
4015 ATCCACAGAGCCAGTCAAGTATAGTAGATTACCACCATAGTAGATTTTACCGGCATCAACAATGACCCATGAAAAATTAAGAAACGTGATCTTTTACCACCAAAACATTTGTTGG  
4127 AATTTGCGGCGCTGTTATTGTTTGTGAAACATTTATGTTTATTACTACTGTCTATTGTTATTATTATTATTATTATTTACACCTGTGTGAAAAATTCAAAATTATA  
4239 TATTACTTTGATCGGTGGTTGTATTACTGTTCTCTGTTTCTTATGTTTACTTTGACGGAGCGCAATGGAGAGATTTCGACACTTGGTTGCCGTTGTTATTATCATGAATTCGT  
4351 TGCTAGTGGCAGATATAGATGTTATTTCGAGCAAGTCGATGAAGAAACCGCTTTTGTGTACGTACAATGGAGTCTTTTCAAGAGAAGATGTACCATAATACACTACACTCT  
4463 TCAGAAAGCAATGGGAGCTTTGGTCAGTGAAGAAAAAATTTCTCCATAAAGAAAGATCATATTATACGATGATGTAAGATATAATACCCGGTTGTATGTACATTTTAAGAG  
4575 CAAGGTAAGAAAGTGACAATAACTTCTGTATGATCTTTAGCATGTACCTCTTTTGGTGGGCTGAGAACTAAGATTCATCTTTTGGCGAAGAAATTTTGTCTATGAACCTTCACA  
4687 TTTATGAAGTGGTTTAAGAGAAATTACAAAAAGAAATGACACAGACTCGAACACTGTGACGGTCTGCTTTAGTAAAAATAAATAATTGTAGTCAAAATAGCGCAGCTAATGCGAA  
4799 ACAAGAAATGAAGCATATACCATTCTGTGTATGATTTTGTGTGGTTGACAGATATCTGCCGAAATTTTAACGCCTTATTATATAAATATAAATGATGTATGTGTATATAA  
4911 CAGATACGATATTCAATTTTCTACCGTAGGGTTGGGATTTTCTCAAACCTCCAATTTCTCGTCGGGTATTTCCTCAATGGCGATCCTCTTTTGGCTTCGGCTTTTCAGTG  
5023 TCATTGACAAATTTTAGGCACCTTAATTGTGTAGACCGGTGTGTGAAGTAGCTTTTAATTCTTCGTCTCTTAATCGGTGGCAGCAGGGGAATTTAACGGTTCTCTCAAACG  
5135 CACCATAATTTTAGTTCGTGATCTTCAAGAAATTTTTCATCAATGCCCACTCTGTCTTCGATCTTACCCTTGATGAGCATCTCATGAGAAGATGGATGGTAATCAATGTGAA  
5247 AGCCCTAGAGTTAGCACCTTGGTAACGCAAGAAACAACCTACGTAAGTGTCTCTCGGTATCATAGACATTCACCTTCTGTTGAAATGGTAAGTCCATTCCTCTGTTTCAGGCTTGGAT

AatII junction marker

EcoRI

junction mark

FIG. 3C

5359 ACTTGTAAACGGTCAGGTAATTGGGAAGGCGCTTAGGTGAGCGAACGATGAAGATTTTGGGCTAATGGTGGTCTCGACGATTCCTCCAGCTGATTCAAAGGTTTTTCTTT  
 5471 TGTGGTTTCGCCAGCTTCCTCTTTTGGGTGCTTCAGACTTAATCCTTCTTAATCCTTTTCTCTCCCTTTTCGCCCTCCTCTGTTCGGTATTGTCCTCAATTTCTGTTTCAGTGGC  
 5583 TTCAATATGGTGAACACCTAATTAACGCGGTTAATAAGTCGTTTAAACTGTTTGCCCTGTTGGTTGGTCTAATATTCTCTGGCAGTATTACAATGGTAATATGATGATATATCTT  
 Xhol                      Apal                      KpnI  
 5695 C TCGAGGGGGG GCCCGGTACC CAGCTTTTGT TCCTTTTAGT GAGGGTTAAT TCCGAGCTTG GCGTAATCAT GGTACATAGCT GTTTCCTGTG TGAATATGTT  
 5796 ATCCGCTCAC AATTCCACAC AACATACGAG CCGGAAGCAT AAAGTGTAAG GCCTGGGGTG CCTAATGAGT GAGGTAATC ACAITTAATTG CGTTGCGCTC  
 PvuII  
 5896 ACTGCCCGCT TTCCAGTCTG GAAACCTGTC GTCCAGCTG CAITTAATGAA TCGGCCAACG CGCGGGGAGA GCGGGTTTGC GTATTGGGGC CTCTTCCGCT  
 5996 TCCTCGCTCA CTGACTCGCT GCGCTCGGTC GTTCGGCTGC GCGGAGCGGT ATCAGCTCAC TCAAAGGCGG TAATACGGTT ATCCACAGAA TCAGGGGATA  
 6096 ACGCAGGAAA GAACATGTGA GCAAAAGGCC AGCAAAAGGC CAGGAACCGT AAAAAGGCCG CGTTGCTGGC GTTTTTCAT AGGCTCCGCC CCCCTGACGA  
 6196 GCATCACAAA AATCGACGCT CAAGTCAGAG GTGGCGAAAC CCGACAGGAC TATAAAGATA CCAGCGGTTT CCCCCTGGAA GCTCCCTCGT GCGCTCTCCT  
 6296 GTTCCGACCC TGCCGCTTAC CGGATACCTG TCCTTCTTTC TCCCTTCGGG AAGCGTGGG CTTTCTCATA GCTCAGCTG TAGGTATCTC AGTTCGGTGT  
 6396 AGGTCTGTTG CTCCAAGCTG GGTGTGTGC ACGAACCCCC CGTTCAGCCC GACCGCTGCG CCTTATCCGG TAACTATCGT CTTGAGTCCA ACCCGGTAAG  
 6496 ACACGACTTA TCGCCACTGG CAGCAGCCAC TGGTAACAGG ATTAGCAGAG CGAGGTAATG AGCGGTGCT ACAGAGTTCT TGAAGTGTG GCCTAATCTAC  
 6596 GGCTACACTA GAAGGACAGT ATTTGGTATC TCGGCTCTGC TGAAGCCAGT TACCTTCGGA AAAAGAGTGT GTAGCTCTTG ATCCGGGCAA CAAACCACCG  
 6696 CTGGTAGCGG TGGTTTTT TTTTGCAAGC AGCAGATTAC GCGCAGAAAA AAAGGATCTC AAGAAGATCC TTTGATCTTT TCTACGGGGT CTGACGCTCA  
 6796 GTGGAACGAA AACTCAGCTT AAGGGATTTT GGTCATGAGA TTATCAAAAA GGATCTTCAC CTAGATCCTT TTAATATAA AATGAAGTTT TAAATCAATC  
 6896 TAAAGTATAT ATGAGTAAAC TTGGTCTGAC AGTTACCAAT GCTTAATCAG TGAGGCACCT ATCTCAGCGA TCTGTCTATT TCGTTTCATCC ATAGTTGCCT  
 2864 W H K I L S A G I E A I Q R N R E D M T A Q  
 6996 GACTCCCGCT CGTGTAGATA ACTACGATAC GGGAGGGCTT ACCATCTGGC CCCAGTGTG CAATGATACC GCGAGACCCA CGCTCACCGG CTCCAGATTT  
 2644 S G T T Y I V V I R S P K G D P G L A A I I G R S G R E G A G S K  
 7096 ATCAGCAATA AACAGCCAG CCGGAAGGC AGTGTCTCTG CAACTTTATC CGCTCCATC CAGTCTATTA ATTGTGCGG GGAAGCTAGA  
 2314 D A I F W G A P L A S R L L P G A V K D A E M W D I L Q Q R S A L

FIG. 3D

# 006090"EE9T6560

7196 GTAAGTAGIT CGCCAGTTAA TAGTTGCGC AACGTTGTTG CCATTGCTAC AGGCATCGTG GTGTACGCT CGTCGTTTGG TATGGCTTCA TTCAGCTCCG  
1974 T L L E G T L L K R L T T A M A V P M T T D R E D N P I A E N L E P  
7296 GTTCCCAACG ATCAAGCGGA GTTACATGAT CCCCATGTT GTCAAAAAA GCGGTTAGCT CCTTCGGTCC TCCGATCGTT GTCAGAAAGTA AGTTGGCCCG  
1644 E W R D L R T V H D G M N H L F A T L E K P G G I T T L L L N A A  
7396 AGTGTATCA CTCATGGTTA TGGCAGCACT GCATAATTCT CTTACTGTCA TGCCATCCGT AAGATGCTTT TCTGTGACTG GTGAGTACTC AACCAAGTCA  
1314 T N D S M T I A A S C L E R V T M G D T L H K E T V P S Y E V L D  
7496 TTCTGAGAAT AGTGTATCGG GCGACCGAGT TGCTCTTGCC CGCGTCAAT ACGGATATAT ACCGCGCCAC ATAGCAGAAC TTATAAAGTG CTCATCATTTG  
974 N Q S Y H I R R G L Q E Q G A D I R S L V A G C L L V K F T S M M P  
7596 GAAAACGTTT TCCTGGGCGA AAATCTTCAA GGATCTTACC GCTGTTGAGA TCCAGTTTCA TGTAACCCAC TCGTGCACCC AACTGATCTT CAGCATCTTT  
644 F R E E P R F S E L I K G S N L D L E I Y G V R A G L Q D E A D K  
7696 TACTTTCACC AGCGTTTCTG GGTGAGCAA AACAGGAAGG CAAAATGCCG CAAAAGGG AATAAGGCG ACACGGAAAT GTTGAATACT CATACTCTTC  
314 V K V L T E P H A F V P L C F A A F F P I L A V R F H Q I S M  
7796 CTTTTTCAAT ATTATTGAAG CATTATATCAG GGTTATGTGTC TCATGAGCGG ATACATATTT GAATGTATTT AGAAAAATAA ACAATAGGG GTTCCGGCGCA  
7896 CATTTCGCCG AAAAGTGCCA CCTGACGTCT AAGAAACCAT TATTATCATG ACATTAAACCT ATAAAAATAG GCCTATCAG AGGCCCTTTC GTC  
junction marker

FIG. 3E



Spontaneous conversion rate  
([*psf*] $\rightarrow$ [*PSH*])

Sup35

C

M

N

WT NM



$10^{-6}$

-4 repeats

Repeat deletion  
Mutant (R $\Delta$ 2-5)



$< 10^{-8}$

+2 repeats

Repeat expansion  
mutant (R2E2)



$5 \times 10^{-3}$

FIG. 4

Spontaneous conversion of Sup35 repeat mutants